

CLAIMS

1. Installation for making a nonwoven textile web comprising:

- 5       - at least one extruder (1) for a melted organic polymer feeding a spinneret (2) for producing a curtain of filaments (3);
- a cooling zone (4) for bringing about at least surface solidification of the said extruded
- 10       filaments;
- a suction device (5) in the form of a narrow chamber of rectangular cross-section, inside which the curtain of filaments is subjected to the action of high-speed air streams causing the
- 15       said filaments to be drawn;
- means (6) for deflecting and slowing down the air flow at the outlet of the drawing slot and for distributing the filaments homogeneously over a receiving belt (7);
- 20   characterised in that the means for carrying out the different operational phases, namely extruding means, cooling means, filament-drawing assembly and distributing means, are separate from one another and can be independently adjusted, not only according to the
- 25   production to be achieved (nature of the polymers, elementary count of the filaments produced, weight per unit area of the web produced), but also during the start-up phase of the production.

- 30       2. Installation according to Claim 1, characterised in that the cooling zone (3) at the spinneret outlet and the filament-drawing zone (5) consist of a plurality of elementary modules placed side by side according to the production width, the filament-opening system consisting,
- 35   for its part, of an assembly extending over the entire width of the web produced.

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3. Installation according to one of Claims 1 and 2, characterised in that the cooling at the spinner t (2) outlet is brought about by means of an assembly (4) having a plurality of successive zones (4a, 4b, 4c) for subjecting the curtain of filaments to a transverse air current, the speed and temperature of which may be adjusted independently in each of the zones.

4. Installation according to one of Claims 1 to 3, characterised in that the filament-drawing device (5) has a suction slot (F), the width of which may be adjusted automatically according to the production of the machine.

5. Installation according to one of Claims 1 to 4, characterised in that the filament-opening system (6), which is spaced from the outlet of the drawing system, consists of an assembly which laterally deflects the air flow, reducing the speed thereof and that of the filaments, and facilitating the uniform deposition on the conveyor (7) by eliminating any rebound at the moment of this deposition.

6. Installation according to Claim 5, characterised in that the filament-opening system (6) is associated with an assembly which electrostatically charges the said filaments before deposition on the receiving belt.

7. Installation according to one of Claims 1 to 6, characterised in that it has means for controlling, by computer, all of the subassemblies making it possible to bring about the increase in speed of the production line automatically.

8. Method for using an installation according to one of Claims 1 to 7, characterised in that:

- during the start-up phase, the temperature of the air inside each cooling zone (4a, 4b, 4c) decreases from one

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zone to the next, it being possible for the speed of the traversing air in each zone to be adjusted and to be between 0.5 m/second and 3 m/second in each of the said zones, the drawing slot being maintained in the separated position,

- the production speed is then increased progressively, the parameters of the zone (4) for cooling and heating up the filaments being modified in order to:

- 10     . increase the air speed in the first zone (4a), the temperature remaining unchanged,
- . increase the temperature in the second zone (4b) to bring it to the level of that of the first zone and increase the air speed in this zone,
- 15     . increase the air temperature in the third zone (4c) and increase the air speed in this zone;

- simultaneously, the width of the drawing slot is progressively reduced to attain a nominal operating value, the pressure of the drawing air being progressively increased.

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